

Appl. No. 09/101,236  
Amdt. dated March 11, 2004  
Reply to Office Action of Sept. 15, 2003

**REMARKS**

Please enter this Amendment.

Claims 37, 42 and 43 have been amended to correct minor mis-wordings such as changing "stimulating" to "simulating" in claim 37; and "confirming" to "monitoring" in claims 37, 42 and 43. Nomenclature such as "N" and "N/V = fZ" has also been deleted.

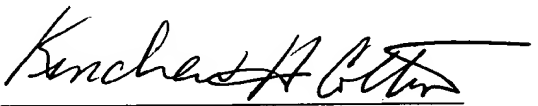
The specification at page 53, lines 3-4; page 56, lines 23-26 and page 130 at lines 4-17, page 181 at lines 3-6 and page 231 at lines 21-14 supports the amendments.

The Examiner's request for replacement pages for pages 18-21 from the May 27, 2003 Amendment is acknowledged. True and correct copies of said pages (Remarks) accompany this Amendment.

Please reconsider and withdraw all rejections/objections and pass this case on to allowance.

Respectfully submitted,

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**REPLACEMENT PAGES 18-21**

**OF THE REMARKS**

**FILED MAY 27, 2003**

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**REMARKS**

Applicants respectfully request the Examiner to enter their amended claims, enter their new claims 43 and 44, grant their concurrent petition for extension of time, and thereafter favorably reconsider their application.

Applicants respectfully request the Examiner to enter this Amendment because the amended language reduces issues, does not mandate a new prior art search, and does not present new matter.

Amended claims find basis in the specification throughout, consistent with what it discloses to those skilled in the art. Commencing at pages 1 and 2, the specification teaches those skilled in the art that a simulation model utilizing fugacity in, for instance, units reflecting an external force, such as pressure units (external force by which a chemical escapes from one media to another). Thus, for instance, when the chemical material concentration differs between media A and media B, the concentrations in the respective media can be expressed by

$$N_A/V_A = f_A Z_A$$

$$N_B/V_B = f_B Z_B$$

wherein N represents chemical mass, V represents the volume of the medium, f represents fugacity, and Z represents the fugacity capacity of the medium.

Those skilled in the art would understand in the context of the present inventions that the mass N can change over time according to the transference and degradation of the chemical material between the media A and B. Assuming that the volume V and fugacity capacity Z are constant, the above expressions are represented as follows:

$$(df_A/dt)V_A Z_A = dN_A/dt = (\text{Degradation})_A \pm (\text{Transference})_{AB}$$

$$(df_B/dt)V_B Z_B = dN_B/dt = (\text{Degradation})_B \pm (\text{Transference})_{AB}$$

whereupon, when the Degradation and Transference are given, the parameters  $f_A$  and  $f_B$  can be calculated. Then the parameters are respectively multiplied by their respective fugacity

capacities ( $Z_A$  and  $Z_B$ ), the chemical material concentrations in the respective media in a specific period of time can be simulated.

The specification teaches terms regarding ventilation and emission rate. It is unreasonable to limit claims 37 and 42 only to V-change, deposition, transference and degradation. The specification includes teachings to determine fugacity by ventilation, as disclosed, for example, on page 51. The specification also teaches determining fugacity by emission rate, for example, as disclosed on pages 152-153. A person skilled in the art can determine at least emission rate, deposition, V-change, transference, ventilation and/or degradation, according to the specification. Additionally, a person skilled in the art can make/use a program for determining fugacity from among emission rate, deposition, V-change, transference, ventilation and degradation.

Accordingly, in view of the present specification, it would be common sense to a person skilled in the art that a fugacity differential equation in which mass N changes over time according to a parameter(s) including other parameters, except for both of Transference and Degradation, is definable in the claims with expressions such as fugacities are determined in terms selected from emission rate, deposition, V-change, transference, ventilation and degradation.

The specification includes Examples to illustrate sample embodiments so as to guide the person skilled in the art. It is not seen where there is any undue experimentation. For instance, the specification describes the present inventions in which a pesticidal compound is sprayed into an indoor space as a solution containing the compound, or is residually or spatially sprayed, or heated to vaporize the compound, or sprayed over the whole floor, as would be apparent to those skilled in the art.

The Office Action places mis-directed reliance on decisions, such as *Ex parte Forman* and *In re Wands*. Here, Applicants have provided guidance to those skilled in the art and the experimentation, if needed, is of the kind and amount to be expected in this art. Consequently, the present situation is far removed factually from a situation hypothesized in the Office Action.<sup>1</sup>

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<sup>1</sup> Applicants respectfully submit that the Examiner should submit an Examiner's affidavit or Examiner's Declaration providing facts upon which to base the rejection. Otherwise, it is respectfully submitted that the rejection should be withdrawn.

Therefore, it is presently considered that a person skilled in the art would understand that Applicants had possession of the invention when they filed their application, would be able to apprehend the invention based on the originally filed specification and would have the wherewithal to understand the reasonable metes and bounds of the claimed inventions.

Applicants furthermore respectfully submit that their claims comply with the direction that an application concludes with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicants regard as his invention. The explanatory language added in claims 37 and 42 is based on the specification throughout, including pages 1-2, and it is noted that the Applicants are not prisoners of the English language. That is, the claims can use different wording inasmuch as the subject matter was otherwise described for a person skilled in the art in their specification.

Applicants traverse the rejection of claims 2, 20 and 37-42 over the English language abstract of a foreign-language publication by Nose in combination with a 1958 decision about computer software.

The Office Action asserts that only the English language abstract of the Nose reference is being relied upon. It is unfortunate that the Patent Office had a translation of the Nose reference prepared in January 2002 but provided it to Applicants in December 2002 with a Final Rejection.

Applicants also note the sole prior art rejection rests in part on a 1958 court case, In re Venner, while curiously remaining silent with respect to State Street Bank & Trust Co. v. Signature Financial Group, Inc., slip opinion attached for the Examiner's convenience, discussing patentability of software inventions. It would appear to Applicants that the law, as well as technology, has evolved in the forty five years since the Venner decision. It is suggested that the reliance on the Venner decision be reconsidered and withdrawn.

Fugacity was and is a term understood in the context of the present invention as being related to a unit representative of an external force (such as pressure) by which a chemical material can be caused to escape from one medium to another.

Accordingly, it would appear the Office Action erred in dismissing the claim terminology- fugacity - as being merely a generic term evaluated by movement as in the Nose Abstract.

It appears that the Nose reference discloses that "[t]he vertical movement of oxamyl applied to the top soil was described by the differential equation consisting of dispersion

coefficient, pore-water velocity, Freundlich's constants for absorption ... ." This description teaches that the above differential equation is utilized for determining vertical movement of oxamyl, but the cited Nose Abstract would not have taught a differential equation as utilized herein. Nor would it have suggested the differential equations could be utilized to determine fugacity of the compound or another compound as in the present claimed inventions.


Applicants submit that the interpretation of the Nose Abstract as in the Office Action does not address the inventions as claimed. There is no teaching or motivation to a person of ordinary skill in the art to use a unit relating to linear movement (vertical movement) and convert it directly or mathematically into units of pressure to determine fugacity as in the claimed inventions.

The Nose Abstract would *not* have suggested or motivated towards evaluation of the safety of a compound, pesticidal or otherwise, against a human. Therefore, since the cited Nose Abstract does not disclose or suggest the evaluation of safety a human, the claims 2 and 20 would have been unobvious in view of the Nose Abstract alone or even if taken with the now antiquated reasoning extracted from the In re Venner decision.

Applicants respectfully submit that their application is in condition for allowance. If the Examiner has any questions, please contact the undersigned.

Respectfully submitted,

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